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Joseph W. Russell, Chairperson  
Montana Board of Environmental Review  
P.O. Box 200901  
Helena, MT 59620-0901

Subject: EPA Action on Montana's New Classifications and  
Water Quality Criteria for Low Flow Waterbodies and New  
Nutrient Criteria for Portions of the Clark Fork River

Dear Mr. Russell:

The U.S. Environmental Protection Agency (EPA) has completed its review of Montana's revised Surface Water Quality Standards and Procedures, Chapter 30, Sub-Chapter 6. The revisions establish: 1) new classifications and water quality criteria for low flow or seasonal streams, lakes, ponds and ditches; and 2) new nutrient water quality criteria for portions of the Clark Fork River.

The revisions were adopted by the Board of Environmental Review (Board) on July 26, 2002 and were submitted to EPA Region 8 for review with a November 26, 2002 letter from Jan P. Sensibaugh, Director of the Montana Department of Environmental Quality (DEQ). The submittal package included: 1) the revised water quality standards with a rationale for the revisions made; 2) a statement from the Attorney General's Office certifying that the revisions were duly adopted pursuant to State law; and 3) a response to public comment. Receipt of the revised standards on December 2, 2002 initiated EPA's review pursuant to Section 303(c) of the Clean Water Act (CWA) and the implementing federal water quality standards regulation at 40 CFR Part 131. EPA has completed its review, and this letter is to notify you of our action.

**AGENCY REVIEW**

The Clean Water Act, Section 303(c)(2), requires States and authorized Indian Tribes to submit new or revised water quality standards to EPA for review. EPA is to review and approve or disapprove the submitted standards. Pursuant to CWA Section 303(c)(3), if EPA determines that any standard is inconsistent with the applicable requirements of the Act, the Agency shall notify the State or authorized Tribe and specify the changes to meet such requirements. If such changes are not adopted by the State or authorized Tribe within ninety days after the date of notification, EPA is to promulgate such standard pursuant to CWA Section 303(c)(4). The Region's goal has been, and will continue to be, to work closely with States and authorized



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Tribes throughout the State or Tribal standards revision process as a means to avoid the need for disapproval action, and where disapproval is unavoidable, to explore with the State or authorized Tribe an acceptable resolution that will make federal promulgation unnecessary.

## **TODAY'S ACTION**

Today, EPA addresses two water quality standards actions taken by the Board: 1) adoption of new classifications, with assigned designated uses and water quality criteria, for low flow or seasonal streams, lakes, ponds and ditches; and 2) adoption of new nutrient water quality criteria for portions of the Clark Fork River.

I am pleased to inform you that today EPA is approving the new nutrient water quality criteria for portions of the Clark Fork River. EPA has concluded that this revision to the Surface Water Quality Standards, Sub-chapter 6, is consistent with the requirements of the Clean Water Act and EPA's implementing regulation at 40 CFR Section 131.11. Accordingly, this revision is approved. The basis for EPA's action is presented in an enclosed rationale document. The new definitions in Section 17.30.602, defining terms used in the revised sections of Sub-chapter 6, are approved as well.

EPA commends and appreciates the efforts by the Board and the DEQ for their work in adopting water quality standards that include new classifications, with assigned designated uses and water quality criteria, for low flow or seasonal streams, lakes, ponds and ditches. Unfortunately, EPA is unable to approve, in their entirety, the new classifications and associated water quality criteria. This new classification system is limited to low flow and seasonal waters that lack the aquatic habitat to support fish, and although the new classification system is generally acceptable, we have concluded that several elements are inconsistent with the requirements of the Clean Water Act and EPA's implementing regulation at 40 CFR Sections 131.10 and 131.11.

Specifically, we have concluded that the limited water quality criteria assigned to three of the new classifications and the lack of an aquatic life use for another of the new classifications are unacceptable. The DEQ has not demonstrated that the limited water quality criteria assigned to the new classifications D-2, E-2 and F-1 are adequately protective of the aquatic life uses included in these classifications. Further, the DEQ has not demonstrated that failure to include an aquatic life use in the new E-5 classification is justified. Based on our review, the Region has determined that these four classifications are not adequately protective of aquatic life uses. We have concluded, therefore, that the new classifications D-2, E-2, E-5 and F-1, with their assigned designated uses and the associated water quality criteria, are inconsistent with the requirements of the Clean Water Act and EPA's implementing regulation at 40 CFR Sections 131.10 and 131.11. For the other new classifications, D-1, E-1, E-3 and E-4, our review has determined that these classifications, with their assigned designated uses water quality criteria, are consistent with the requirements of the Clean Water Act and EPA's implementing regulation at 40 CFR Sections 131.10 and 131.11.

Below is a summary of the eight new use classifications and EPA's specific approval/disapproval action for each.

- **D-1, Constructed irrigation and drain ditches that contain controlled flows of surface water and are de-watered during the non-irrigation season. This classification is protected for agricultural and secondary contact recreational uses. The assigned level of protection includes the narrative “free from” criteria, except those specifically applicable only to protection of aquatic life, and fecal coliform criteria for secondary contact recreation. There is, in addition, assurance that downstream uses will be protected.**

**EPA has concluded that the D-1 classification, with its assigned designated uses and water quality criteria, is consistent with the requirements of the CWA and EPA’s implementing regulation at 40 CFR Sections 131.10 and 131.11. Accordingly, the D-1 classification, with its assigned designated uses and water quality criteria, is approved. The basis for EPA’s action is presented in an enclosed rationale document.**

- **D-2, Constructed irrigation and drain ditches that contain controlled flows of surface water mixed with ground water. This classification is protected for marginal aquatic life, agricultural and secondary contact recreational uses. The assigned level of protection includes the acute aquatic life water quality criteria in WQB-7 (except no ammonia water quality criteria apply), the narrative “free from” criteria, except those specifically applicable only to protection of aquatic life, and fecal coliform criteria for secondary contact recreation. There is, in addition, assurance that downstream uses will be protected.**

**EPA has concluded that the D-2 classification, with its assigned designated uses and water quality criteria, is inconsistent with the requirements of the CWA and EPA’s implementing regulation at 40 CFR Sections 131.10 and 131.11. Specifically, the DEQ has presented no rationale demonstrating that application of the acute water quality criteria in WQB-7, alone, and the lack of any water quality criteria for ammonia, will adequately protect the aquatic life use included within the D-2 classification. EPA has concluded that the limited level of protection assigned to the D-2 classification is not adequately protective of the aquatic life use and is inconsistent with the requirements of the CWA and EPA’s implementing regulation. Accordingly, the D-2 classification, with its assigned uses and water quality criteria, is disapproved. The basis for EPA’s action is presented in an enclosed rationale document.**

- **E-1, Ephemeral streams, including those with flows that are periodically augmented by discharges from point sources. This classification is protected for agricultural, secondary contact recreational and wildlife uses. The assigned level of protection includes the narrative “free from” criteria, except those specifically applicable only to protection of aquatic life, and fecal coliform criteria for secondary contact recreation. There is, in addition, assurance that downstream uses will be protected.**

**EPA has concluded that the E-1 classification, with its assigned designated uses and water quality criteria, is consistent with the requirements of the CWA and EPA’s implementing regulation at 40 CFR Sections 131.10 and 131.11. Accordingly, the E-1 classification, with its assigned designated uses and water quality criteria, is approved. The basis for EPA’s action is presented in an enclosed rationale document.**

- **E-2, Ephemeral streams with flows augmented by continuous discharges from point sources. This classification is protected for marginal aquatic life, agricultural, secondary contact recreational and wildlife uses. The assigned level of protection includes the acute aquatic life water quality criteria in WQB-7 (except no ammonia water quality criteria apply), the narrative "free from" criteria, except those specifically applicable only to protection of aquatic life, and fecal coliform criteria for secondary contact recreation. There is, in addition, assurance that downstream uses will be protected.**

**EPA has concluded that the E-2 classification, with its assigned designated uses and water quality criteria, is inconsistent with the requirements of the CWA and EPA's implementing regulation at 40 CFR Sections 131.10 and 131.11. Specifically, the DEQ has presented no rationale demonstrating that application of the acute water quality criteria in WQB-7, alone, and the lack of any water quality criteria for ammonia, will adequately protect the designated aquatic life use included within the E-2 classification. EPA has concluded that the limited level of protection assigned to the E-2 classification is not adequately protective of the aquatic life use and is inconsistent with the requirements of the CWA and EPA's implementing regulation. Accordingly, the E-2 classification, with its assigned uses and water quality criteria, is disapproved. The basis for EPA's action is presented in an enclosed rationale document.**

- **E-3, Seasonal lakes and ponds. This classification is protected for agricultural, secondary contact recreational and wildlife uses. The assigned level of protection includes the narrative "free from" criteria, except those specifically applicable only to protection of aquatic life, and fecal coliform criteria for secondary contact recreation. There is, in addition, assurance that downstream uses will be protected.**

**EPA has concluded that the E-3 classification, with its assigned designated uses and water quality criteria, is consistent with the requirements of the CWA and EPA's implementing regulation at 40 CFR Sections 131.10 and 131.11. Accordingly, the E-3 classification, with its assigned designated uses and water quality criteria, is approved. The basis for EPA's action is presented in an enclosed rationale document.**

- **E-4, Semi-permanent lakes and ponds, not including reservoirs, that have electrical conductivity (EC) less than 7,000  $\mu$ S/cm. This classification is protected for aquatic life, agricultural, secondary contact recreational and wildlife uses. The assigned level of protection includes the acute and chronic aquatic life water quality criteria in WQB-7 and the fecal coliform criteria for secondary contact recreation. There is, in addition, assurance that downstream uses will be protected.**

**EPA has concluded that the E-4 classification, with its assigned designated uses and water quality criteria, is consistent with the requirements of the CWA and EPA's implementing regulation at 40 CFR Sections 131.10 and 131.11. Accordingly, the E-4 classification, with its assigned designated uses and water quality criteria, is approved. The basis for EPA's action is presented in an enclosed rationale document.**

- E-5, Semi-permanent lakes and ponds, not including reservoirs, that have electrical conductivity (EC) equal to or greater than 7,000  $\mu\text{S}/\text{cm}$ . This classification is protected for agricultural, secondary contact recreational and wildlife uses. The assigned level of protection includes the narrative "free from" criteria, except those specifically applicable only to protection of aquatic life, and fecal coliform criteria for secondary contact recreation. There is, in addition, assurance that downstream uses will be protected.

EPA has concluded that the E-5 classification, with its assigned designated uses and water quality criteria, is inconsistent with the requirements of the CWA and EPA's implementing regulation at 40 CFR Sections 131.10 and 131.11. Specifically, the failure to assign an aquatic life use and appropriate water quality criteria to the E-5 classification is not supported and is unacceptable. Information on aquatic organism tolerance indicates that values above 7,000  $\mu\text{S}/\text{cm}$  EC are tolerated by certain aquatic organisms, and as a result, there are aquatic communities in many waterbodies to which the E-5 classification could be applied. The revised designated uses include no rationale supporting the lack of an aquatic life use for E-5. Accordingly, the E-5 classification, with its assigned designated uses and water quality criteria, is not adequately protective of aquatic life and is disapproved. The basis for EPA's action is presented in an enclosed rationale document.

- F-1, Streams with low or sporadic flow that, because of natural hydro-geomorphic and hydrologic conditions, are not able to support fish. This classification is protected for aquatic life, not including fish, agricultural, secondary contact recreational and wildlife uses. The assigned level of protection includes the acute aquatic life water quality criteria in WQB-7 (except no ammonia water quality criteria apply), the narrative "free from" criteria, except those specifically applicable only to protection of aquatic life, and fecal coliform criteria for secondary contact recreation. There is, in addition, assurance that downstream uses will be protected.

EPA has concluded that the F-1 classification, with its assigned designated uses and water quality criteria, is inconsistent with the requirements of the CWA and EPA's implementing regulation at 40 CFR Sections 131.10 and 131.11. Specifically, the DEQ has presented no rationale demonstrating that application of the acute water quality criteria in WQB-7, alone, and the lack of any water quality criteria for ammonia, will adequately protect the aquatic life use included within the F-1 classification. EPA has concluded that the limited level of protection assigned to the F-1 classification is not adequately protective of the aquatic life use and is inconsistent with the requirements of the CWA and EPA's implementing regulation. Accordingly, the F-1 classification, with its assigned uses and water quality criteria, is disapproved. The basis for EPA's action is presented in an enclosed rationale document.

As indicated above, the new classification system is limited to low flow and seasonal waters that lack the aquatic habitat to support fish, and the Region believes this new classification system is generally acceptable. Unfortunately, there are elements of the classification system that are inconsistent with the requirements of the Clean Water Act and EPA's implementing regulation. Because EPA views a "standard" as designated uses together with water quality criteria needed to

protect those uses, we must withhold approval of four of the eight new classifications until the unacceptable elements within these classifications are appropriately addressed, and the "standard," as a whole, is acceptable and available for appropriate application. Nevertheless, we want to emphasize that resolution of this disapproval action will focus only on the unacceptable elements of these four classifications, and we are not rejecting the general concept of designated uses, applicable to low flow and seasonal waterbodies, as embodied in the new classification system.

Anticipating this disapproval action, the Region and the DEQ have been in discussion on this matter, and the Region believes we have reached an agreement that will resolve the disapprovals, making federal promulgation unnecessary.<sup>1</sup> The proposed resolution would: 1) apply the acute and chronic water quality criteria in WQB-7 to the D-2, E-2 and F-1 classifications; and 2) add a "saline tolerant aquatic life" use to the E-5 classification, with narrative criteria ensuring protection of conditions supporting those saline tolerant aquatic communities where they occur. The resolution would also clarify that the narrative "free from" criteria, applicable to aquatic life use protection, would apply to these four classifications.

In the proposed resolution, the application of the WQB-7 water quality criteria to the D-2, E-2 and F-1 use classifications would include a proviso noting that, for non-priority pollutants, the acute and chronic water quality criteria could be adjusted or removed based on a site-specific demonstration that such a change is warranted. Further, since a use attainability analysis (UAA) will be needed to support assigning any one of the new classifications to a specific waterbody, the UAA process will provide the opportunity to evaluate the appropriateness of the water quality criteria as well. Because site-specific revisions will require a rule change, site-specific water quality criteria will be subject to review by the public and EPA. The Region believes the DEQ's proposal, if adopted, would resolve the disapprovals in today's EPA action.

#### **ENDANGERED SPECIES ACT REQUIREMENTS**

It is important to note that EPA's approval of Montana's revisions to Sub-chapter 6 is considered a federal action which may be subject to the Section 7 consultation requirements of the Endangered Species Act (ESA). Section 7 of the ESA states that "all other federal agencies shall ... utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species..." and "each federal agency ... shall ... insure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined to be critical..." EPA's

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<sup>1</sup> It should be noted that the disapproved D-2, E-2, E-5 and F-1 classifications and their assigned designated uses and criteria will not become applicable standards for purposes of the Clean Water Act until revised by the Board and subsequently approved by EPA. As a result, the existing, approved use classifications, with their assigned designated uses and water quality criteria, continue to apply to waterbodies associated with the disapproved classifications. EPA, therefore, believes it would not be necessary for EPA to promulgate replacement standards for these waterbodies even if the agreed upon resolution were not adopted by the Board.

approval of the water quality standards revisions, therefore, may be subject to the results of consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the ESA. Nevertheless, EPA also has a Clean Water Act obligation, as a separate matter, to complete its water quality standards action. Therefore, in approving/disapproving Montana's water quality standards revisions today, EPA is completing its CWA Section 303(c) responsibilities.

Today, EPA is completing two water quality standards actions to which the ESA provisions may apply: 1) approval/disapproval of new classifications, with assigned designated uses and water quality criteria, for low flow or seasonal streams, lakes, ponds and ditches; and 2) approval of new nutrient water quality criteria for portions of the Clark Fork River. Our ESA responsibilities for these two actions are presented below.

#### Approval/Disapproval of the New Classifications

The new use classifications cannot be assigned to a specific waterbody until: 1) a use attainability analysis, supporting a classification change, is completed, and 2) based on that analysis, the Board adopts a revised classification. These site-specific revisions to the State rule will be subject to review by the public and EPA. EPA's action on the new classifications, therefore, is not an action that may have an effect on listed species. This is because our action today does not change applicable standards for any waterbody and is only an intermediate step that will require further action (i.e., application of the new classifications, through rulemaking, to specific waterbodies). As a result, our approval/disapproval of the new use classifications is not subject to the consultation provisions of the ESA. Any future application of the new classification system arising from our approval/disapproval action today will trigger an ESA evaluation and will be appropriately addressed at that time. For today's action, therefore, the Region is making a "no effect" finding, and no consultation with the U.S. Fish and Wildlife Service is required.

#### Approval of the New Nutrient Criteria for the Clark Fork River

The Region's approval of new nutrient water quality criteria for portions of the Clark Fork River does trigger the ESA consultation provisions. It is important to note, therefore, that EPA's approval of these water quality standards is made subject to the results of consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act. Although it is unlikely, should the consultation process identify information that supports a conclusion that the new nutrient criteria are likely to jeopardize the continued existence of any listed endangered or threatened species, the Region will revisit and revise, as necessary, its approval decision.

#### **CONCLUSION**

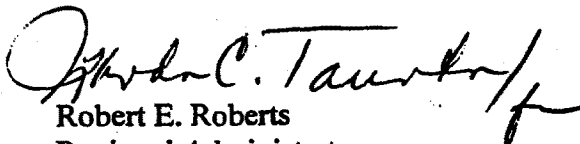
The addition of eight new use classifications to Montana's water quality standards significantly refines the previous classification system. These refined use classifications provide an improved level of precision in the water quality standards and should allow the State to tailor assigned levels of protection to better match existing and attainable aquatic communities, aiming for water quality criteria that are neither over- nor under-protective.

Although EPA is unable to approve, in their entirety, the new use classifications and their assigned designated uses and water quality criteria, we believe the further amendments, proposed by the DEQ and discussed above, will resolve the disapprovals in today's action. We look forward to working with the Board and the DEQ in completing these changes, allowing for final approval of the amended Sub-chapter 6.

The development and adoption of nutrient criteria for portions of the Clark Fork River is an important addition to Montana's water quality standards as well. The new water quality criteria will provide a key element in the State's and stakeholders' ongoing efforts to improve and protect the water quality of this important Montana water resource. The Board and the DEQ are commended for their work in amending the water quality standards to include new classifications and water quality criteria for low flow and seasonal waterbodies and new nutrient water quality criteria for portions of the Clark Fork River.

If you have questions concerning this letter, please call Max Dodson, Assistant Regional Administrator, Office of Ecosystems Protection and Remediation at 303-312-6598, or have your staff contact Bill Wuerthele, Regional Water Quality Standards Coordinator, at 303-312-6943.

Sincerely,

  
Robert E. Roberts  
Regional Administrator

**Enclosure**

cc: Abe Horpestad, Montana Department of Environmental Quality  
R. Mark Wilson, Field Supervisor, Montana Field Office  
U.S. Fish and Wildlife Service  
John Wardell, Director, EPA Montana Operations Office



## **Enclosure**

### **RATIONALE FOR EPA'S APPROVAL/DISAPPROVAL ACTION ON MONTANA'S NEW USE CLASSIFICATIONS FOR LOW FLOW AND SEASONAL WATERS AND NUTRIENT WATER QUALITY CRITERIA FOR PORTIONS OF THE CLARK FORK RIVER**

This enclosure provides the rationale for today's EPA approval/disapproval of the: 1) new classifications, with their assigned designated uses and water quality criteria, for low flow or seasonal streams, lakes, ponds and ditches; and 2) new nutrient water quality criteria for portions of the Clark Fork River.

#### **PART (A) - EPA'S ACTION ON NEW CLASSIFICATIONS AND WATER QUALITY CRITERIA FOR LOW FLOW OR SEASONAL STREAMS, LAKES, PONDS AND DITCHES**

Montana's Surface Water Quality Standards and Procedures, Chapter 30, Sub-chapter 6, have been revised to include eight new use classifications. The new classifications apply to low flow or seasonal streams, lakes, ponds and ditches that do not have the physical habitat or flow necessary to support fish or primary contact recreation. As explained in the Board of Environmental Review's (Board's) rationale, the new classifications were needed because all of the classifications in the previous rule included protection of fish (salmonid and non-salmonid) and primary contact recreation. As a result, there was no way for the Board or the Department of Environmental Quality (DEQ) to distinguish, in the designation of uses, waterbodies that were incapable of supporting fish or primary contact recreation.

EPA's review of and action on the new classifications for low flow or seasonal streams, lakes, ponds and ditches included the following considerations:

- The new classifications apply only to waters that do not have the natural habitat to support fish. If a low flow water supports fish, that waterbody will remain within the established classification system with application of the acute and chronic aquatic life criteria and the human health criteria.
- Because the new classifications apply only to waters without fish (or drinking water supplies), the human health criteria in WQB-7 do not apply. There is no exposure pathway.
- A use attainability analysis (UAA) will be required to place a specific waterbody into any one of the new classifications, and because site-specific revisions will require a rule change, any use or criteria changes arising from the UAAs will be subject to review by the public and EPA.
- The UAA will have to demonstrate that other, higher uses (e.g., primary contact recreation) are not attainable at a specific site; and
- Although an aquatic life use is not assigned to naturally ephemeral waterbodies, an aquatic life use is assigned to ephemeral waterbodies where a regulated discharge alters the natural, ephemeral character of the waterbody. This is consistent with the Region's position on uses assigned to ephemeral waterbodies.

## The Revised Standards

Below is a summary of Montana's new classifications for low flow and seasonal waterbodies.

Summary of Montana's New Classifications for Low Flow Streams <sup>1</sup>			
Classification	Description	Uses Protected <sup>2</sup>	Level of Protection <sup>3</sup>
D-1	Constructed Ditch which is a water of the State with controlled flows and which is de-watered in the non-irrigation season.	Agriculture Secondary Contact Recreation	Narratives , except those applicable to aquatic life <sup>3</sup> Fecal coliforms (where >60 degrees F); Downstream uses protected.
D-2	Constructed Ditch with controlled flows + groundwater.	Marginal Aquatic Life Agriculture Secondary Contact Recreation	Acute aquatic life criteria (except no ammonia criteria); Narratives, except those applicable to aquatic life; Fecal coliforms (where >60 degrees F); Downstream uses protected.
E-1	Ephemeral streams, including those periodically augmented by point source discharges.	Agriculture Secondary Contact Recreation Wildlife	Narratives, except those applicable to aquatic life; Fecal coliforms (where >60 degrees F); Downstream uses protected.
E-2	Ephemeral streams with flows augmented by continuous point source discharges.	Marginal Aquatic Life Agriculture Secondary Contact Recreation Wildlife	Acute aquatic life criteria (except no ammonia criteria); Narratives, except those applicable to aquatic life; Fecal coliforms (where >60 degrees F); Downstream uses protected.

<sup>1</sup> These low flow waters classifications apply only to waters that do not support fish. If a low flow water supports fish, that waterbody will remain within the established classification system with application of acute and chronic criteria for aquatic life and the human health criteria.

<sup>2</sup> Because the new classifications apply only to waters without fish, the human health criteria do not apply. There is no exposure pathway.

<sup>3</sup> The narratives not applicable are: 1) the prohibition against toxics in toxic amounts; and 2) the prohibition against the violation of any water quality standard. These are voided to eliminate a general requirement for compliance with the chronic standards.

Summary of Montana's New Classifications for Low Flow Streams			
Classification	Description	Uses Protected	Level of Protection
E-3	Seasonal lakes/ponds which do not intersect the groundwater table.	Agriculture Secondary Contact Recreation Wildlife	Narratives, except those applicable to aquatic life; Fecal coliforms (where >60 degrees F); Downstream uses protected.
E-4	Semi-permanent lakes/ponds (not reservoirs) with EC < 7000 microsiemens per centimeter (µs/cm).	Aquatic Life Agriculture Secondary Contact Recreation Wildlife	Acute/Chronic aquatic life criteria Fecal coliforms (where >60 degrees F); Downstream uses protected.
E-5	Semi-permanent lakes/ponds (not reservoirs) with EC > 7000 µs/cm.	Agriculture Secondary Contact Recreation Wildlife	Narratives, except those applicable to aquatic life; Fecal coliforms (where >60 degrees F); Downstream uses protected.
F-1	Low or sporadic flow streams that, because of natural conditions, are unable to support fish.	Aquatic Life (other than fish) Secondary Contact Recreation Wildlife	Acute aquatic life criteria (except no ammonia criteria); Narratives, except those applicable to aquatic life; Fecal coliforms (where >60 degrees F); Downstream uses protected.

### Federal Requirements

In today's action on Montana's new classification system for low flow or seasonal waterbodies, EPA's approval/disapproval decisions considered the two principal elements of the revised standards: the designated uses applied to each of the new classifications and the water quality criteria assigned to protect those designated uses. Because EPA views a "standard" as designated uses together with water quality criteria needed to protect those uses (see, for example 40 CFR 131.3(i)), our review evaluated both designated uses and the associated water quality criteria in determining whether or not the "standard," as a whole, was acceptable.

### Designated Uses

The Clean Water Act and EPA's water quality standards regulation effectively establish a rebuttable presumption that the CWA Section 101(a)(2) uses, i.e., aquatic life and primary contact recreation, are attainable and should apply to all waters. This presumption can be rebutted, but only where it is affirmatively demonstrated that such uses are not attainable. The

mechanism for making such a demonstration is the UAA, and EPA's water quality standards regulation, at 40 CFR Section 131.10(j), identifies the UAA requirements. A UAA is required, in part, where the State "... designates or has designated uses that do not include the uses specified in Section 101(a)(2) of the Act..." or "... wishes to remove a designated use that is specified in Section 101(a)(2) of the Act ..." The regulation, at 40 CFR Section 131.10(g), then identifies the six specific use removal criteria that may be considered in demonstrating that attaining a use is infeasible.

The federal use removal criterion #2 (at Section 131.10(g)(2)) clearly contemplates that there may be situations where low flow conditions prevent the attainment of an aquatic life use and that certain low flow conditions may be an acceptable basis for either removing or not designating an aquatic life use. A key aspect of both the federal regulation, however, is the language "... *unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating state water conservation requirements to enable uses to be met.*" This language means that, where a discharge to a low flow stream is sufficient to sustain or establish an aquatic life use, that use is to be protected. In such a situation, a proposal to remove an aquatic life use or failure to designate an aquatic life use would be unacceptable.

Based on the provisions in federal use removal criterion #2, the Region has taken the position that a naturally ephemeral flow is a flow condition that can serve as the basis for removing or not designating an aquatic life use (see discussion below). It is important to note, however, that, where a regulated discharge alters the natural, ephemeral character of a waterbody, bringing flows to levels that establish or sustain an aquatic life use, that use must be designated, consistent with the language in the federal use removal criterion #2 (italicized language above). Montana's new use classification system includes classification categories that address both situations: 1) classifications applicable to ephemeral waterbodies to which an aquatic life use is not assigned (D-1, E-1 and E-3); and 2) classifications applicable to naturally ephemeral waterbodies where a regulated discharge alters that natural, ephemeral character and to which an aquatic life use is assigned (D-2 and E-2). The designation of aquatic life uses within these classifications (including the lack of an aquatic life use in D-1, E-1 and E-3) is consistent with the Region's position on ephemeral waterbodies and is, therefore, acceptable.<sup>4</sup> As noted above, a UAA will be required as the basis for assigning a waterbody to any of the new classifications. The UAA will have to demonstrate that the conditions applicable to the new classification have been met.

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<sup>4</sup> DEQ's and the Board's failure to assign an aquatic life use to the new E-5 classification is based on a water quality characteristic, salinity, not the ephemeral nature of the waterbodies to which that classification would apply. E-5 would apply to semi-permanent lakes and ponds, not naturally ephemeral waterbodies. The failure to assign an aquatic life use to the E-5 classification is not acceptable and is disapproved in today's action.

### Aquatic Life and Low Flow Streams

Low flow, intermittent and ephemeral waters all sustain some level of aquatic life. And, within the range of low flow habitat types, aquatic communities form a continuum, making it difficult, in the biological sense, to identify the threshold where an aquatic life use begins. Nevertheless, the federal regulation contemplates that there may be situations where low flow conditions prevent the attainment of an aquatic life use and that the existence of certain low flow conditions may be an acceptable basis for either removing or not designating an aquatic life use. Because all waters support some level of aquatic life, the low flow streams question becomes - at what point on the biological continuum presented by low flow streams is the aquatic community sufficient to constitute an aquatic life use? Or, to put it another way - at what low flow condition is the flow sufficiently limiting to prevent attainment of an aquatic life use?

Because aquatic communities under various low flow conditions form a continuum, using biological information, alone, to resolve the "threshold" question is difficult. Historically, therefore, the Region has addressed this issue by applying a hydrologic threshold rather than a biological one. "A naturally ephemeral condition" is the hydrologic threshold the Region has used in making a flow-based distinction between waters supporting and not supporting aquatic life uses. (The definition of "ephemeral" used by the Region is a stream that flows only in direct response to a precipitation or snow melt event in the immediate watershed and whose channel does not intersect the ground water table.) That is, where a State or authorized Tribe can demonstrate that a waterbody is ephemeral, the Region will accept that as a basis for either removing or not designating an aquatic life use. Montana's new classifications, applicable to ephemeral waterbodies, are consistent with the Region's position.

The low flow stream issue is a difficult and important one, and in its July 7, 1998 Advanced Notice of Proposed Rulemaking, EPA sought comment on this topic. Specifically, EPA asked if changes were needed to the regulation or Agency guidance to address more clearly whether, and under what circumstances, UAAs may be used to justify a non-aquatic life use classification, given the broad range of aquatic communities that may exist in low flow waterbodies. At present, the Agency's position on this issue is still evolving, and there is no final Agency guidance on this topic. Until there is more complete guidance, the Region will continue to use the hydrologic "ephemeral waters" threshold as the flow condition that is judged to be sufficiently limiting to prevent attainment of an aquatic life use.

### Recreational Uses

The new classifications for low flow waterbodies do not include a primary contact recreational use. Instead, each of the classifications includes protection of secondary contact recreation when the water temperature exceeds 60 degrees F. Secondary contact, as explained in the Board's response to comments, is applicable to more limited forms of recreation such as boating or wading. Although it is acceptable to have a classification that does not include protection of primary contact recreation, application of that classification requires a UAA, and

the required UAA will have to demonstrate, on a case-by-case basis, that primary contact recreation is precluded.

In conducting UAAs addressing the question of primary contact v. secondary contact recreation, it will be important to consider opportunities for water play by children. Often, the manner in which children play in water can result in exposure pathways equivalent to primary contact recreation, even when the depth of the water ordinarily would not be considered sufficient for primary contact, e.g., deep enough for swimming. The Colorado Water Quality Control Division has considered this question at some length, and in its recently published recreational UAA guidance, the Division includes a section on the "child's play" issue for low flow waterbodies. The Region believes the Colorado approach to this issue is a good one, and we suggest the DEQ might want to review the Colorado guidance prior to initiating UAAs related to the new low flow use classifications.<sup>5</sup>

Finally, because secondary contact does not involve whole-body contact with the water, it is likely that the temperature of the water is not the limiting factor that it might be for primary contact recreation. As part of the revisions being proposed to resolve disapproved classifications, the DEQ might consider eliminating the 60 degree F cutoff for secondary contact recreation, making that level of protection applicable all year.

#### Water Quality Criteria

The federal regulation at 40 CFR Section 131.11 sets out the requirements for assigning water quality criteria needed to protect designated uses. 40 CFR Section 131.11 requires that States and authorized Tribes adopt water quality criteria to protect the designated uses and that those criteria be based on sound science and contain a sufficient number of parameters to ensure protection of the designated uses. Further, Clean Water Act Section 303(c)(2)(B) establishes water quality criteria requirements specific to the priority toxic pollutants.<sup>6</sup>

Although the new D-2, E-2 and F-1 use classifications appropriately include designated aquatic life uses, the water quality criteria assigned to protect these uses are limited to the acute aquatic life criteria in WQB-7 (except no ammonia criteria apply). The DEQ has presented no rationale demonstrating that application of the acute criteria in WQB-7, alone, and the lack of any water quality criteria for ammonia, will adequately protect the aquatic life uses included in these classifications. In removing the chronic criteria from aquatic life use protection, the DEQ and Board apparently have made a categorical decision, unsupported by a scientific rationale,

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<sup>5</sup> Colorado's Recreational Use Classification Guidance (Jan. 2003) is available on-line at: [http://www.cdphe.state.co.us/wq/Assessment/Assess\\_pdf/RecUAAGuidev11.pdf](http://www.cdphe.state.co.us/wq/Assessment/Assess_pdf/RecUAAGuidev11.pdf). The attachments to the guidance are at: [http://www.cdphe.state.co.us/wq/Assessment/Assess\\_pdf/RecUAA-attachmentv11.pdf](http://www.cdphe.state.co.us/wq/Assessment/Assess_pdf/RecUAA-attachmentv11.pdf).

<sup>6</sup> Priority toxic pollutants are those listed by the Administrator under Section 307(a) of the Clean Water Act.

that chronic effects are not expected to be significant for the aquatic communities in waterbodies that would be potentially covered by these new use classifications. Without a scientific rationale supporting such a position, the Region must conclude this limited level of protection does not meet the requirements in 40 CFR Section 131.11 and, therefore, must disapprove these three use classifications and the associated, limited level of protection for the aquatic life uses.

Anticipating this disapproval action, the Region and the DEQ have been in discussion on this matter, and the Region believes we have reached an agreement that will resolve the disapprovals. The proposed resolution would simply apply the acute and chronic water quality criteria in WQB-7 to the D-2, E-2 and F-1 classifications. The resolution would also clarify that the narrative "free from" criteria, applicable to aquatic life use protection, would apply to these three classifications.

In the proposed resolution, the application of the WQB-7 water quality criteria to the D-2, E-2 and F-1 use classifications would include a proviso noting that, for non-priority pollutants, the acute and chronic water quality criteria could be adjusted or removed based on a site-specific demonstration that such a change is warranted. The Region fully acknowledges that site-specific adjustments to the water quality criteria applicable to these low flow or seasonal waterbodies may be warranted, and we believe the UAA needed to support assigning any of the new classifications to a specific waterbody also provides an opportunity to evaluate site-specific adjustments to the water quality criteria (EPA has guidance on approaches to making such adjustments). As noted above, our problem with the deletion of the chronic level of protection in these new classifications is that it was done categorically and without a supporting rationale. The DEQ's proposed resolution will address this problem and establish the basis and expectation for site-specific adjustments to water quality criteria associated with these classifications. The Region believes the DEQ's proposal, if adopted, would resolve the disapprovals in today's EPA action.

## **Conclusion**

EPA has concluded that the limited water quality criteria assigned to three of the new classifications and the lack of an aquatic life use for another of the new classifications are unacceptable. The DEQ has not demonstrated that the limited water quality criteria assigned to the new classifications D-2, E-2 and F-1 are adequately protective of the aquatic life uses included in these classifications. Further, the DEQ has not demonstrated that failure to include an aquatic life use in the new E-5 classification is justified. Based on our review, the Region has determined that these four classifications are not adequately protective of aquatic life uses. We have concluded, therefore, that the new classifications D-2, E-2, E-5 and F-1, with their assigned designated uses and the associated water quality criteria, are inconsistent with the requirements of the Clean Water Act and EPA's implementing regulation at 40 CFR Sections 131.10 and 131.11.

For the other new classifications, D-1, E-1, E-3 and E-4, our review has determined that these classifications, with their assigned designated uses and the associated water quality criteria, are consistent with the requirements of the Clean Water Act and EPA's implementing regulation at 40 CFR Sections 131.10 and 131.11.

#### **PART (B) - EPA'S ACTION ON WATER QUALITY CRITERIA FOR NUTRIENTS AND STANDING CROP OF BENTHIC ALGAE FOR PORTIONS OF THE CLARK FORK RIVER**

Montana's Surface Water Quality Standards and Procedures, Chapter 30, Sub-chapter 6, have been revised to include water quality criteria for nutrients and standing crop of benthic algae for portions of the Clark Fork River. The new water quality criteria were adopted to control nuisance algal growth in portions of the mainstem of the Clark Fork River and to establish uniform in-stream nutrient targets for regulated discharges to the River. The adopted water quality criteria are consistent with the in-stream nutrient targets approved by EPA through a total maximum daily load (TMDL) for four point source discharges to the River under the Voluntary Nutrient Reduction Program (VNRP). Adoption of the VNRP in-stream nutrient targets as standards will ensure consistent application of the in-stream targets to all of the regulated discharges to the River.

#### **The Revised Standards**

The water quality criteria for nutrients and standing crop of benthic algae for portions of the Clark Fork River (applicable from June 21 to September 21) are:

- Clark Fork River mainstem from below the Warm Springs Creek confluence to the confluence with the Blackfoot River:
  - Total phosphorus as P 20 µg/L
  - Total nitrogen as N 300 µg/L
  - Benthic algal chlorophyll *a* (summer mean) 100 milligrams per square meter (mg/m<sup>2</sup>)
  - Benthic algal chlorophyll *a* (maximum) 150 mg/m<sup>2</sup>
- Clark Fork River mainstem from the Blackfoot River confluence to the confluence with the Flathead River:
  - Total phosphorus as P 39 µg/L
  - Total nitrogen as N 300 µg/L
  - Benthic algal chlorophyll *a* (summer mean) 100 mg/m<sup>2</sup>
  - Benthic algal chlorophyll *a* (maximum) 150 mg/m<sup>2</sup>

The new water quality criteria were adopted to control nuisance algal growth in portions of the mainstem of the Clark Fork River, and several complimentary approaches were applied in the derivation of the water quality criteria. The two principal methods used were: a) a reference site approach using a portion of the River that typically exhibits acceptable levels of benthic



algae; and b) regression and graphical analyses of a large database to identify acceptable levels of total phosphorous and total nitrogen. The criteria derivation methods and recommendations are reported in *Developing Nutrient Targets to Control Benthic Chlorophyll Levels in Streams: A Case Study of the Clark Fork River*, W.K. Dodds et al. (*Wat. Res.* Vol. 31, No. 7, pp 1738-1750, 1997).

As explained in the DEQ's response to comments on the adopted standards, the water quality criteria for total phosphorous were further modified somewhat to specifically address nuisance levels of the filamentous green alga, *Cladophora* in the upper Clark Fork River (i.e., upstream of the Blackfoot River). Data suggest that maintenance of a high N:P ratio (e.g., 15:1) will help control *Cladophora* in the upper River. As a result, the total phosphorous criterion applied to the upper River was lowered to 20 µg/L to maintain that high N:P ratio. Since *Cladophora* is not a significant problem in the lower Clark Fork River, the total phosphorus criterion was set at 39 µg/L, which is a level, based on the work by W.K. Dodds et al., that would be expected to limit the benthic algae standing crop to the 100 mg/m<sup>2</sup> and 150 mg/m<sup>2</sup> target levels established in the standards.

As noted in W.K. Dodds et al., the relationship between lowered nutrient levels and effects on algal biomass is poorly understood for streams and rivers. The DEQ also has acknowledged there are uncertainties in the algae-nutrient relationship used to establish the newly adopted standards. In acknowledging this uncertainty, the DEQ notes that the standards will be re-evaluated at least once every three years as required by State and federal law.

## **Conclusion**

The development and adoption of nutrient criteria for portions of the Clark Fork River is an important addition to Montana's water quality standards. The new criteria will provide a key element in the State's and stakeholders' ongoing efforts to improve and protect the water quality of this important Montana water resource.

EPA has concluded that the water quality criteria for nutrients and standing crop of benthic algae for portions of the Clark Fork River are consistent with the requirements of the Clean Water Act and EPA's implementing regulation at 40 CFR Section 131.11. Accordingly, the new nutrient water quality criteria are approved. It is important to note that EPA's approval of these water quality criteria is subject to the results of consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the Endangered Species Act.